

LSI Docket No. 00-586

Remarks/Arguments

In the Office Action mailed on 21 July 2004, the Examiner rejected claims 1, 2, 10, 11 and 19 under 35 U.S.C. §102(b) as anticipated by Knight (European Patent Application EP0335812), rejected claims 3-7, 12-16, and 20-22 under 35 U.S.C. §103(a) as unpatentable over Knight in view of Gillespie (United States Patent Number 5,859,987), and rejected claims 8, 9, 17, and 18 under 35 U.S.C. §103(a) as unpatentable over Knight in view of Gillespie and further in view of Leung (United States Patent Number 6,446,139).

Applicant traverses all rejections and has amended claims 1, 10 and 19 for editorial clarity and to better protect the invention. Claims 8 and 17 have been cancelled with their essential recitations integrated into base claims 1 and 10, respectively.

§102 and §103 Rejections

The Examiner rejected claims 1, 2, 10, 11 and 19 under 35 U.S.C. §102(b) as anticipated by Knight, rejected claims 3-7, 12-16, and 20-22 under 35 U.S.C. §103(a) as unpatentable over Knight in view of Gillespie, and rejected claims 8, 9, 17, and 18 under 35 U.S.C. §103(a) as unpatentable over Knight in view of Gillespie and further in view of Leung.

Independent claims 1 and 10 recite a broad method and related system for downloading code to a host adapter that is devoid of nonvolatile program memory. Such a broad concept appears to be taught by Knight. Dependent claims 3-7 and 12-16 (dependent from claims 1 and 10, respectively) recite further details regarding specific PCI bus sequences associated with a host adapted diagnostic mode for performing the recited download procedure. Dependent claims 8-9 and 17-18 (also dependent from claims 1 and 10, respectively) recite further details regarding the steps of uploading the code after downloading the code. Claims 19-22 recite a related structure in which such download and upload features may be embodied.

Applicants respectfully disagree with the Examiner's rejection of claims 3-7, 12-16 and 20-22 as unpatentable over Knight in view of Gillespie. Though it is true that the

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combination may teach use of a PCI bus to download program instructions, the rejected claims recite a specific sequence of PCI bus transaction that utilize specific registers having specific defined signals and functions. These specific sequences, registers, signals and functions are nowhere to be found in the cited combination (nor in any prior art of record considered individually or in any combination). Rather, the prior art of record suggests only a known technique of mapping an unused memory space (a "window") in the main processor's PCI bus (i.e., the motherboard) to permit direct access to the local program memory of the host adapter.

However, this rejection of dependent claims is essentially moot in view of the Applicants following discussion of the rejection of claims 8 and 17 and the amendments of claims 1, 10 and 20.

Claims 1 and 10 have been amended to incorporate the essential recitations of claims 8 and 17, respectively. Claims 8 and 17 have been cancelled. The Examiner suggests that the combination of Knight, Gillespie and Leung teaches the features of rejected claims 8 and 17 (as well as 9 and 18). In particular, the Examiner relies on Leung as showing the feature of uploading programmed instructions from the host adapter to the motherboard after having downloaded the program instructions from the motherboard. The Examiner points to column 5, lines 10-18 as showing such a feature as loading (flashing) modified code into system BIOS ROM 204 of Leung's figure 2A.

Applicants respectfully submit that Leung fails to teach or reasonably suggest the uploading of code from a host adapter that was previously downloaded to the host adapter. In fact, Leung is silent as to any uploading of programmed instructions from the host adapters (CCs 208 of his figure 2A or HAs 106a-c of figure 1A). The cited passage of Leung reads as follows:

At this point, the modified option ROM code 250 is generated. The generation of the modified option ROM code 250 preferably includes a generic option ROM code 252 and the table 254. The generic option ROM code 252 includes initialization code 252a and runtime code (RTC) 252b. The generic option ROM code 252 is configured to operate with each of the chips 208 that are part of the table 254. Once the option ROM code 250 is generated, it is flashed to the system ROM 204.

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The modified option ROM code 250 that Leung refers to as being "generated" is resident in the motherboard RAM 206 and modified there to adapt it for the particular compliment of optional chips (208) integrated on the motherboard 200. The modified BIOS so generated is then flashed back into the ROM memory 204 of the motherboard 200. See Leung column 4, line 46 through column 5, line 33.

Leung never suggests that programmed instructions, previously downloaded and resident in a volatile memory of the host adapter (e.g., optional controller chips 208 of Leung's motherboard 200), is uploaded to the motherboard after being downloaded to the host adapter.

Amended claims 1 and 10 (e.g., original claims 8 and 17, now cancelled) are therefore not taught or reasonably suggested by the cited combination. In particular, none of the prior art of record, considered individually or in any combination, teaches or reasonably suggests that programmed instructions are first downloaded from a motherboard to a host adapter devoid of non-volatile program memory and then subsequently uploaded from the host adapter back to the motherboard. As noted in the specification (and as later claimed in claims 9 and 18) such a feature may be useful, for example, to save the state of the host adapter in view of power management events and processing. Independent claim 19 has been amended to incorporate a similar uploading feature in its recited structure.

In view of the above discussion and the amendments to independent claims 1, 10 and 19, Applicants maintain that claims 1, 10 and 19 are allowable and respectfully request reconsideration and withdrawal of the rejection thereof.

Remaining dependent claims 2-7, 9, 11-16, 18 and 20-22 depend from allowable claims 1, 10 and 19 and are therefore allowable for at least the same reasons and as dependent from allowable base claims. Applicants therefore respectfully request reconsideration and withdrawal of the rejection of all remaining claims 1-7, 9-16, and 18-22.

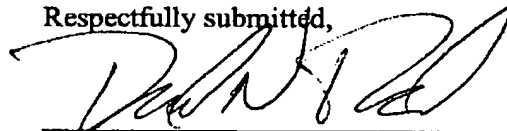
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Conclusion

Applicants have amended independent claims 1, 10 and 19 for editorial clarity and to better protect the invention. Claims 8 and 17 have been cancelled. Applicants have thoroughly discussed the Examiner's rejection of remaining claims 1-7, 9-16, and 18-22 and have requested reconsideration and withdrawal of all outstanding objections and rejections.

Applicants believe that no fees are due in this matter. However, if it is determined that any fees are due, the Commissioner is authorized to debit Deposit Account No. 12-2252 for the required fees. Should any issues remain, the Examiner is encouraged to telephone the undersigned attorney.

Respectfully submitted,



Daniel N. Fishman #35,512
Duft Setter Ollila & Bornsen LLC
2060 Broadway, Suite 300
Boulder, CO 80302
(303) 938-9999 x21
(303) 938-9995 (fax)